

JOHN DAY FISH SCREENING & PASSAGE

Annual Report FY 2001



DOE/BP-00005122-1



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JOHN DAY FISH SCREENING & PASSAGE ANNUAL REPORT FY 2001 (NMFS/BPA/OWEB)

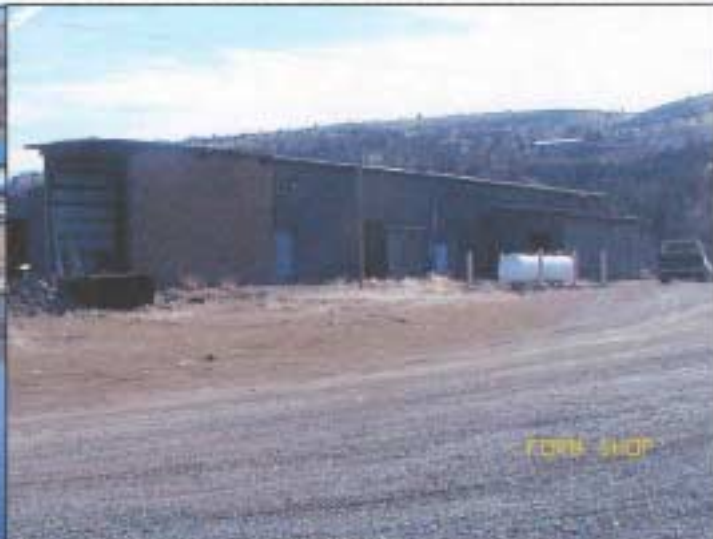
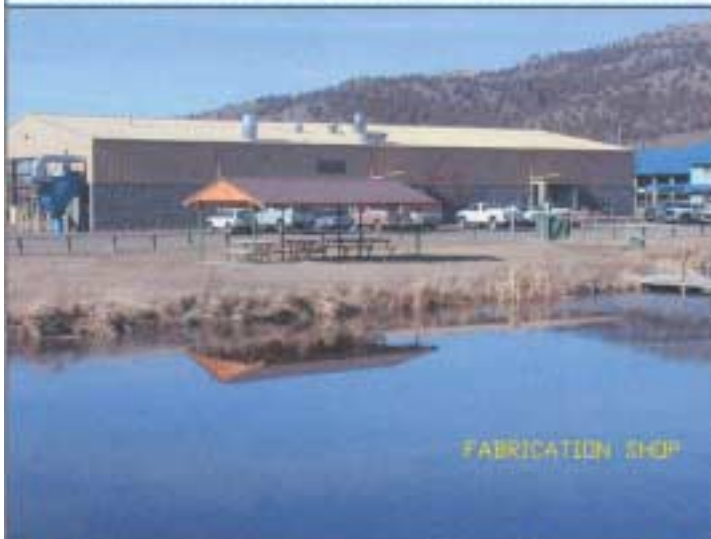


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***REPRESENTATIVE SAMPLING OF FY- 2001 PROJECTS**



**PINE CR. NO. 4
REPLACEMENT PROJECT**



**PINE CR. NO. 4
COMPLETED 5X36 TRIPLE**



**JOHN DAY RIVER NO. 30
REPLACEMENT PROJECT**



**JOHN DAY RIVER NO. 30
COMPLETED 4X18 SINGLE SOLAR**



**JOHN DAY RIVER NO. 31
REPLACEMENT PROJECT**



**JOHN DAY RIVER NO. 31
COMPLETED 8X36 SINGLE**



LAYCOCK CR. NO. 2
REPLACEMENT PROJECT



LAYCOCK CR. NO. 2
COMPLETED 3'X4' BELT SCREEN AND SIPHON



MALHEUR RIVER NO. 1
UNSCREENED



MALHEUR RIVER NO. 1
COMPLETED 7X30 DUAL PREFAB



BATE POND (BRIDGE CREEK)
PASSAGE PROJECT



BATES POND (BRIDGE CREEK)
COMPLETED LADDER AND SPILLWAY



ROCK CREEK
PASSAGE BARRIER



ROCK CREEK
PASSAGE BARRIER MODIFICATIONS



MALHEUR RIVER NO. 3
COMPLETED 5X30 DUAL



PINE CR. NO. 1 REPLACEMENT PROJECT
COMPLETED 6X24 DUAL



PINE CR. NO. 2 REPLACEMENT PROJECT
COMPLETED 7X30 TRIPLE



PINE CR. NO. 3 REPLACEMENT PROJECT
COMPLETED 7X30 TRIPLE



**SERVICE CR. NO. 1 REPLACEMENT PROJECT
COMPLETED 2X14 PREFAB- SINGLE SOLAR**



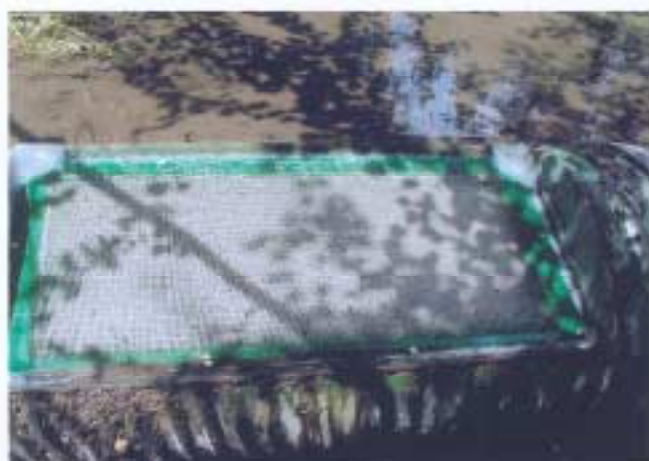
**SERVICE CR. NO. 2 REPLACEMENT PROJECT
COMPLETED 2X14 PREFAB-SINGLE SOLAR**



**MALHEUR REFUGE SCREENING PROJECT
COMPLETED 5'X10' SOLAR BELT SCREEN**



**ALDER CR. NO. 2 SCREENING PROJECT
COMPLETED PREFAB WEIR**



**ALDER CR. NO. 1 REPLACEMENT PROJECT
COMPLETED INSTALLATION OF WEDGE WIRE PANELS**



**ALDER CR. NO. 1 PASSAGE PROJECT
COMPLETED INSTALLATION OF PREFAB LADDER**

Project Picture Information

1. **Pine Creek No. 4:** Screen is a 5' X 36" Triple and was the last of the series of screens on Pine Creek to complete the screening of the Pine Creek drainage.
2. **John Day River No. 30:** This screen was in serious need of replacement. It was located in the Upper Mainstem of the John Day River, and is in critical spawning and rearing areas for both Salmon and Steelhead. Screen is a 4' X 18" Solar.
3. **John Day River No. 31:** Screen replacement in the Upper Mainstem of the John Day River. It is an 8' X 36" single.
4. **Laycock Creek No. 2 Replacement Project:** Picture of Siphon, Fish Screen, and Fish Passage Project on Laycock Cr. The old screen is not in the picture, but the diversion needed some major work and did not meet criteria. This particular design keeps water from the John Day River from mixing with Laycock Creek water by siphoning the John Day River water underneath Laycock Creek. There is also a supplement water right that comes from Laycock Creek, which was added in the same structure using a Belt screen.
5. **Malheur River No. 1 New Project:** Project was an unscreened diversion near Drewsey. The John Day Fish Screen Fabrication Shop fabricated this 7' X 30" Dual PreFab, and delivered it to the landowner. The landowner completed the installation.
6. **Bates Pond Project / Fish Passage:** Project resolved landowner water resource issue. It has opened up 16 miles of Historical Anadromous Fish Habitat, and there has already been six steelhead redds counted above the project this past spawning season.
7. **Rock Creek Fish Barrier Modification:** The removal of this abandoned diversion structure will make passage possible during low water conditions. This past year there were over 70 steelhead redds that got dried up below this barrier due to impassible (low) water conditions.
8. **Malheur River No. 3:** Project was a new screen installation near Drewsey. Screen is a 5' X 30" Dual.
9. **Pine Creek No. 1:** This was one of four screens installed in the Pine Creek drainage. The Pine Creek drainage is now completely screened. Screen is a 6' X 24" dual.
10. **Pine Creek No. 2:** This 7' X 30" Triple was another of the series of screens on Pine Creek.
11. **Pine Creek No. 3:** Screen is a 7' X 30" Triple.
12. **Service Creek No. 1 and 2:** These two replacement screens had identical water rights, but were across the creek from one another. They are both 2' X 14" PreFab solar powered screens.
13. **Malheur Refuge Screen:** 5' X 10' Belt screen.
14. **Alder Creek No. 2:** PreFab weir was completed by the John Day Screen Shop, and was used because of the limited space located at the diversion point. The water right is less than 1 C.F.S. The landowner now has a screened diversion and there is also fish passage.
15. **Alder Creek No. 1:** Alder Creek weir major maintenance. The John Day Screen shop ordered some wedge wire panels to take the place of the perforated plate which has a higher percentage of open area. The Screen Shop also added a Denil fish ladder for better fish passage.

FISH SCREENING HISTORY OF BASINS 6 & 7

The John Day River, basin 6 fish screening program, began in 1952 under the Columbia River Fisheries Development Program (Mitchell Act). An extensive study of irrigation diversions throughout the basin revealed that over 550 diversions were in need of fish protection. As a result of this study 550 fish screening devices were implemented on diversions by the department between 1953 and the late 1970's. Federal funds were allocated to screen open diversions for the protection of wild runs of salmon and steelhead smolts in the John Day River system.

The Umatilla and Walla Walla Rivers, basin 7 fish screening program, started in the late 1940's and early 1950's under the Columbia River Fisheries Development Program (Mitchell Act). The screening devices were abandoned in the early 1960's, and only a few operated until the early 1980's. All of the screening devices that were originally in operation were replaced by the mid-1980's. There were approximately 50 fish screening devices installed on the Walla Walla and Umatilla Rivers. During the late 1990's to 2001, all of the screening devices were replaced on the Walla Walla and Umatilla River's, and currently meet NMFS criteria.

During the mid-1990's, National Marine Fisheries Service (NMFS) set new criteria for fish protection needs of endangered species. Old fish screens were designed for smolt protection only, the new criteria is designed to protect fish species during all life stages. Associated problems with the old fish screens include, mesh openings on the drum that are too large, excessive approach velocities, small bypass orifice openings, excessive bypass slope, and screen drums of improper size. Most of the old fish screen sites were located below the diversion at convenient points for construction. The location of the old screen sites caused approach velocity and submergence problems. With proper location of the replacement screens, it eliminates fish impingement problems with emergents (fry stage fish). Larger screen systems currently use multiple drums and paddle wheel drive systems to accommodate variable water usage during irrigation season. Using multiple screens allows us to maintain criteria drum submergence levels throughout the irrigation season. Other improvements include angling the drum at a sixty or seventy degree angle to create a sweeping velocity to direct fish to the bypass corridor, this is particularly important with large multiple drum fish screens. Approximately 364 original fish screens that were installed in the John Day, Umatilla, and Walla basins are still in use today. Variability in the number of screens in operation per month can be attributed to new ownership, new delivery systems, and different usage of private lands, which has caused abandonment of many fish screening devices within the basin.

JOHN DAY FISH PASSAGE AND SCREENING PROGRAM 2001 OPERATIONS

Fabrication Shop / Component Section

The fabrication shop focused efforts into completing rotary drum screen components, as well as developing alternative innovative fish screening devices. New screen designs are an ongoing effort to provide fish protection at difficult sites where rotary drums are not the best application. Projects have been completed for the following programs: NMFS - basins 6 and 7 major maintenance existing screens, BPA - basins 6 and 7 screen replacements, OWEB – basins, 6, 7, 10, and 12, OWEB – basin 15 - Central Point, and OWEB – The Dalles, new and replacement screens. (see Table 1).

Form Shop / Structure Section

The form construction shop directed efforts into two main areas, constructing new forms and reassembling used forms for use. Forms were constructed for rotary, siphon and embedded weir fish screening structures. Forms were constructed for NMFS - basins 6 and 7 major maintenance, BPA - basins 6 and 7 screen replacements, OWEB basins 6, 7, 10, and 12, and OWEB – basin 15 - Central Point (see Table 2).

Field Construction / Concrete Section

During 2001, the John Day Program operated with two construction crews. Construction crews poured 611 yards of concrete and laid 1070 feet of bypass pipe. Project efforts were shared between NMFS - basins 6 and 7 major maintenance, BPA - basins 6 and 7 screen replacements, OWEB basins 6, 7, 10, and 12, new and replacement screens (see Table 3).

JOHN DAY FISH PASSAGE PROGRAM 2001 OVERVIEW OF ACTIVITIES

The accomplishments of the John Day, Umatilla, and Walla Walla Fish Passage and Screening Programs include the following: Operation and maintenance of 364 existing fish screening devices (see Table 4), replacement of 18 outdated fish screening devices that totaled 31 rotary drums (some were multiple drum systems), 4 new screens at unscreened diversions, 26 pump intake fish screens, fabrication of components for 16 additional fish screens for the Rogue basin, construction of two fish passage structures, and participation in other activities. After the replacement or construction of 22 fish screening devices during 2001, we now have 108 screening devices that meet NMFS criteria. Funding for these projects was attained from BPA, NMFS and OWEB. The John Day Fish Passage and Screening Program focused construction efforts into new and replacement fish screening devices for these various programs throughout the state of Oregon. The program also continued to develop and implement innovative designs to meet the diverse and expanding needs for the state of Oregon. Projects completed during this report period meet the current National Marine Fisheries Service (NMFS) criteria.

Fish species targeted for protection include ESA Listed Mid-Columbia steelhead, Columbia basin bull trout, anadromous and resident salmonids, and numerous non-game fish species. Priority project locations have been identified as the upper reaches of the Middle Fork, North Fork, South Fork and the Mainstem of the John Day River and their tributaries. These upper reaches contain critical salmon and steelhead spawning and rearing habitat.

Project Funding

Basins 6, 7, 10, and 12—John Day, Umatilla, Walla Walla, Malheur, and Malheur Lake: Combined funding allocations from BPA, NMFS, and OWEB were used for new and replacement fish screening devices in high priority fish spawning and rearing habitat. The majority of projects were completed on the Mainstem and Middle Fork of the John Day River and their tributaries. There were four projects completed in the Umatilla/Walla Walla basins, three projects completed in the Malheur basin, and one project completed in the Malheur Lake basin.

BPA Replacement Screens and Fish Passage

BPA funding allocation was targeted for the replacement of existing fish screens built during the 1950's and 1960's. The John Day Fish Screening Program's Work Statement proposed and attained the goal of completing 20 fish screening projects, and one fish passage structure (which meet NMFS criteria) using BPA funds for

fiscal year 2001. The projects completed consist of 31 rotary drums (some facilities were multiple drum systems), and two fish passage projects. One of the fish passage projects was the completion of a concrete spillway, with an adjacent 27-pool weir and chute fishway for a reservoir. The old spillway needed replacement and did not allow for fish passage. The completed project now allows fish to pass through the reservoir to upper tributaries, which have been inaccessible to fish for approximately seventy years. The second fish passage project included completion of a siphon, fish screen, and fish passage structure. The siphon eliminates false attraction tail water out of the John Day River from mixing with Laycock Creek water.

NMFS Operation and Maintenance

The John Day Fish Passage and Screening Program has operated and maintained 314 rotary fish screening devices under the NMFS Operation and Maintenance Program. During the 2001 season, the program operated and maintained 364 fish screening devices due to the addition of the Umatilla and Walla Walla basins. The operational season coincides with the legal irrigation season that begins on April 1st and ends on September 30th annually. Four screen personnel with assistance from landowners covered the operation and maintenance of existing screens. ODFW personnel visit the fish screen sites a minimum of once per week.

Due to the increasing concerns of handling listed fish, the by-pass trapping facilities were not operated by screens personnel during 2001. Fish Research was granted permission to operate 6-068, a fish trapping facility at one of our screen sites. There were 3 chinook salmon smolts and 126 steelhead smolts captured and pit tagged in the trap (Wilson, *Oregon Department of Fish and Wildlife--Fish Research Annual Report 2001-John Day*, pp.26-Tables 15 & 16, pp.32-Table19) (see Table 5). In addition, the Oregon Department of Fish and Wildlife—John Day personnel conducted redd counts for both chinook and steelhead in the John Day basin (see Tables 6 & 7).

OWEB New/Replacement Screens and Fish Passage

The projects completed consist of 31 rotary drums (some facilities were multiple drum systems), four new fish screening devices, 26 pump intake screens, and two fish passage projects. These projects were completed using both BPA and OWEB funding, except for the four new screen projects which were done in combination with landowner's (water user) dollars.

One of the fish passage projects was the completion of a concrete spillway, with an adjacent 27-pool weir and chute fishway for a reservoir. The old spillway needed replacement and did not allow for fish passage. The completed project now allows fish to pass through the reservoir to upper tributaries, which have been inaccessible to fish for approximately seventy years. In addition, last spring biologists counted 6 redds in this 16 miles of reopened historical anadromous habitat after the ladder was temporarily put into operation. The second fish passage project included completion of a siphon, fish screen, and fish passage structure. The siphon eliminates false attraction tail water out of the John Day River from mixing with Laycock Creek water.

The OWEB program coordinated construction of a new version of the embedded weir fish screen on Ochoco Creek in Prineville, Oregon. The embedded weir is an experimental fish screening device being evaluated by NMFS. This version has many changes from previous designs based on recommendations from NMFS in an effort for this experimental screening device to meet criteria.

OWEB Rogue River Basin / Central Point District Office

Assistance was provided to the ODFW Central Point Fish Screening and Passage Program. Efforts were focused primarily on fish screening device component fabrication, and forms for concrete structures. The John Day Program supplies the fish screening device components, and Central Point completes the concrete structure civil works. All work completed by the John Day Program was funded by Central Point.

The John Day Program completed 16 of these projects for the Rogue River basin this year. Central Point crews assisted with the siphon on Laycock Creek, SR-10-0023, with form building and pouring the concrete.

John Day Program Personnel

During fiscal year 2001, the following John Day Program personnel worked on projects: Principal Executive Manager - 1, Trades Maintenance Coordinator-Assistant Manager – 1, Office Coordinator - 1, limited duration Trades Maintenance Coordinator – OWEB Coordinator - 1, limited duration Engineering Technician 2 - 1, limited duration Construction Inspector - 1, Carpenters - 5, Welder - 1, seasonal Carpenters - 4, seasonal Welders - 7, and Technician 1 – 4 (see organizational chart Table 8).

PROGRAM RELATED ACTIVITIES

District Wildlife Assistance

Bighorn sheep herd composition on Aldrich and Fields Peak mountain ranges.

Big game controlled unit hunt checks during deer season.

Assisted with injured or mortality wildlife complaints.

Personnel helped clean up the District Office yard, old screen systems were removed and transported to the Screen Shop for scrap metal.

District Fisheries Assistance

Steelhead and chinook spawning ground surveys.

Stocking of the Screen Shop pond for youth angling opportunities and the Seventh Street Complex pond for Free Fishing Day.

Facility / Grounds Improvements, Maintenance, and Repairs

- ❖ Parking lot in center of compound was leveled, graveled and compacted for parking ODFW vehicles and equipment.
- ❖ Winterizing of facility and grounds.
- ❖ Winterizing of vehicles and snow tires installed.

Meetings and Training

- ❖ Hoist and crane operator training.
- ❖ Crane and forklift certification.
- ❖ Internal monthly safety meetings and training.
- ❖ Crane certification class was given to employees without certification.
- ❖ All personnel received training for First Aid and CPR.
- ❖ PERS class was given for interested employees.
- ❖ All Personnel attended Regional meeting in La Grande, Oregon.
- ❖ Lead workers attended Firearms training, per Agency Policies and Procedures in La Grande, Oregon.

- ❖ Employees attended Defensive Driver training in La Grande, Oregon.
- ❖ Office Coordinator attended Microsoft Access training in La Grande, Oregon.
- ❖ The Engineering Tech. 2 attended Microsoft Power Point training in La Grande, Oregon.
- ❖ One Carpenter attended a seminar on "How to Lead a Team".
- ❖ Two Carpenters attended a seminar on "How to Supervise People".
- ❖ Engineering Technician attended "AutoCAD 2000" training.
- ❖ Budget meeting with Craig Ely on June 28, 2001.
- ❖ Panama Ditch meeting 9/10/01, discussed the current situation and possible solutions to fish passage at Beech Creek and the John Day River screens. This meeting included the NRCS, Water Master, Senator Ferrioli, Craig Ely, and affected landowners.
- ❖ Bureau of Reclamation and Oregon Department of Fish and Wildlife on October 26, 2001, participated in a conference call concerning Bear Creek (proposed fish passage structure for fiscal year 2002), discussion included consultation, permits, project schedule, expectations and concepts. The Oxbow projects for the Confederated Tribes of the Warm Springs Indian Reservation of Oregon were also discussed.

2001 DIVISION OF WORK HOURS - JOHN DAY SCREENS

<u>COST CENTER – PROJECT</u>	<u>DIVISION OF HOURS</u>	<u>TOTAL HRS.</u>
45310-437000-15/16	Regular NMFS	9,530
	Administration	6,150
	Holiday	822
	Vacation	1,069
	Sick Leave	437
	Comp. Time Leave	176
	Comp. Time Accrued	112
	Personal Business	191
	Governor's Leave	56
	Leave without Pay	232
	Comp. Time Holiday	57
	Regular Pay Saif	8
45310-882003-06/07	Regular OWEB	19,525
	Holiday	408
	Vacation	216
	Sick Leave	155
	Comp. Time Accrued	921
	Comp. Time Leave	1,222
	Personal Business	39
	Governor's Leave	80
45310-355002-05/06	Regular BPA	10,847
	Holiday	612
	Vacation	682
	Sick Leave	671
	Comp. Time Accrued	70
	Comp. Time Leave	144
	Personal Business	166
	Governor's Leave	140
	Regular Pay Saif	88
	Sick Leave Saif	72
	Comp. Time Saif	88

20310-882003-06/07	Regular OWEB Central Point	1,584
	Comp. Time Accrued	2
37310-882003-06	Regular OWEB The Dalles	112
45300-371001-02	Regular Fish Habitat	12
40800-366000-02	Regular Fish Research	68
37310-355001-05	Regular BPA Madras	72
	Comp time Accrued	15
45600-802000-06	Regular Wildlife	24
	Comp. Time Accrued	6

TOTAL: 56,881

Table 1. Fabrication Project Completions – Fiscal Year 2001

Fish Screen Component Fabrication

Project Number	Basin	Water Source	Size	Bays	Drive	Other
S-5-0017	5	Ochoco Creek				Embedded Weir
SR-15-0024	15	Newberryman	8ft.x 36in.	Dual LH 60		
SR-15-0028	15	N.F. Big Butte Creek	4ft.x 24in.	Single RH		
SR-15-0030	15	Eighty Acre Creek	3ft.x 18in.	Single RH		
SR-15-0032	15	Upper Phillips	5ft.x 18in.	Single RH 60		
S-15-0037	15	Neil Creek	5ft.x 30in.	Solar		Cradle with panel
SR-15-0050	15	Munges Creek	3ft.x 18in.	Single RH		
S-15-0051	15	Rogue Basin	5ft.x 24in.	Single RH 60		
SM-15-0071	15	Gold Hill Irr. Dist.	4ft.x 96in.			Paddle wheel shaft
SR-15-0080	15	Rogue Basin	5ft.x 18in.	Single		
SM-15-116	15	NF Big Butte Creek	4ft.x 14in.	Single RH 90		
SM-15-123	15	Neil Creek	6ft.x 24in.	Solar 60		Cradle only
SR-15-0142	15	Little Applegate R.	4ft.x 18in.	Single LH 90		
	15	Sturgis	8ft.x 30in.	Single		
	15	Watts/Hoppin	8ft.x 30in.	Single		
	15		8ft.x 30in.	Dual		
6-068	6	John Day River	8ft.x 42in.	4-Bay		Retrofit existing structure
6-068	6	John Day River	8ft.x 42in.			Fish trap
	6	Riley Creek	8ft.x 36in.			Electric rotary fish barrier
P-00-06-101	6	Bates Pond				Platform for headgate
SR-06-0021	6	John Day River	8ft.x 36in.	Single 60		
SR-06-0022	6	John Day River	4ft.x 24in.	Single 60		
SR-06-0023	6	Laycock siphon	4ft.x 6ft			Belt Screen and Components
SR-06-0029	6	Service Creek	2ft.x 14in.	Solar RH 60		
SR-06-0033	6	Patterson	4ft.x 18in.	Single LH 60		
SR-06-0033	6	Patterson	4ft.x 18in.			Wedge-wire replacement
SR-06-0034	6	John Day River	7ft.x 36in.	Solar LH 60		
SR-06-0043	6	John Day River	6ft.x 24in.	Dual LH 60		
SR-06-0044	6	Pine Creek	6ft.x 24in.	Dual LH 60		
SR-06-0045	6	Pine Creek	7ft.x 30in.	Triple RH		44 inch walls
SR-06-0046	6	Pine Creek	5ft.x 36in.	Triple RH 60		
SR-06-0047	6	Pine Creek	7ft.x 30in.	Triple RH 70		

SR-06-0050	6	Service Creek	2ft.x 14in.	Solar LH 60	
SR-06-0061	6	Rudio Creek	4ft.x 30in.	Dual RH 60	
Goin	6	Alder Creek			Weir Screen
Vandehey	6	Alder Creek			Denil fish ladder
S-10-0004	10	Bentz	7ft.x 30in.	Single LH 60	Pre-Fab Screen
S-10-0009	10	Clark	8ft.x 42in.	Solar RH 60	
S-10-0006	10	Cronin	8ft.x 24in.	Dual LH 60	
S-10-0008	10	Sitz	5ft.x 30in.	Dual RH	
S-12-0005	12	Brown	5ft.x 10ft.		Belt screen
S-13-0002	13	Silver Lake	8ft.x 24in.	Single 60	
SM-06-0029	6	Service Creek	2ft.x 14in.	Solar RH 60	Wedge-wire replacement
SM-06-0050	6	Service Creek	2ft.x 14in.	Solar LH 60	Wedge-wire replacement

Table 2. Construction Shop/Forms Built – Fiscal Year 2001

Fish Screen Forms Constructed by the Form Shop

Project Number	Basin	Water Source	Size	Bays	Drive	Other
	6	Riley Creek	8ft.x 36in.	Single	Electric	Barrier Screen
P-00-06-101	6	Bates Pond				Fishway
SR-07-0009	7	Walla Walla River	6ft.x 24in.	Single	60	
S-07-0010	7	Walla Walla River	5ft.x 18in.	Single	LH 60	
SR-07-0011	7	Walla Walla River	5ft.x 24in.	Dual	RH 60	
SR-07-0013	7	Walla Walla River	6ft.x 30in.	Dual	RH 60	
S-15-0051	15	Rogue River	5ft.x 24in.	Single		
SR-06-0021	6	John Day River	8ft.x 36in.	Single	RH 60	
SR-06-0022	6	John Day River	4ft.x 24in.	Single	RH 60	
SR-06-0023	6	Laycock Creek	4ft.x 72in.	Single	Solar	Belt screen
SR-06-0033	6	Beech Creek	4ft.x 18in.	Solar	LH 60	
SR-06-0033	6	Beech Creek				Headgate
SR-06-0034	6	John Day River	7ft.x 36in.	Solar	RH 60	
SR-06-0043	6	Pine Creek	6ft.x 24in.	Dual	LH 60	
SR-06-0044	6	John Day River	6ft.x 24in.	Dual	LH 60	
SR-06-0045	6	Pine Creek	7ft.x 30in.	Triple	RH 70	
SR-06-0046	6	Pine Creek	5ft.x 36in.	Triple	60	
SR-06-0047	6	Pine Creek	7ft.x 30in.	Triple	LH 60	
SR-06-0061	6	Rudio Creek	4ft.x 30in.	Dual	RH 60	Headgate
S-10-0008	10	Drewsey	5ft.x 30in	Dual	RH 60	
S-10-0008	10	Drewsey				Headgate
S-10-0009	10	Drewsey	8ft.x 42in.	Single	Solar RH	
S-10-0006	10	Drewsey	8ft.x 24in.	Dual	LH 60	

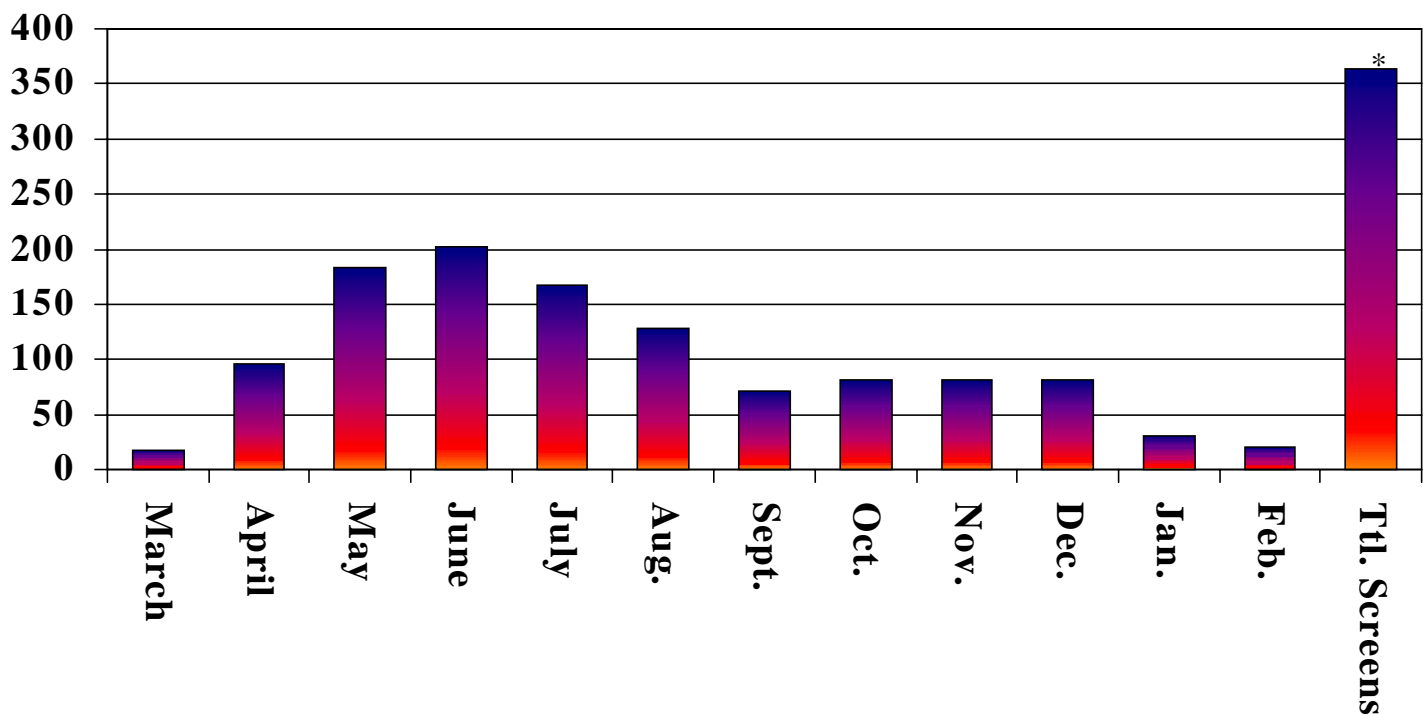
Table 3. Field Construction/Concrete and Steel Structures – Fiscal Year 2001

Screen Box and Structure Implementation

Project Number	Basin	Water Source	Size	Bays	Drive	Other
6-068	6	John Day River	8ft.x 42in.	Four	LH 60	Retrofit

P-00-06-101	6	Bridge Creek				Fishway & Ladder
	6	Riley Creek	8ft.x 36in.	Single 90		Barrier Screen
Goin	6	Alder Creek				Prefab Weir/Screen
SR-07-0009	7	Walla Walla River	6ft.x 24in.	Single 60		
S-07-0010	7	Walla Walla River	5ft.x 18in.	Single LH 60		
SR-07-0011	7	Walla Walla River	5ft.x 24in.	Dual RH 60		
SR-07-0013	7	Walla Walla River	6ft.x 30in.	Dual RH 60		
Reynolds	6	John Day River	6ft.x 24in.	Dual RH 60		
SR-06-0021	6	John Day River	8ft.x 36in.	Single RH 60		
SR-06-0022	6	John Day River	4ft.x 24in.	Single RH 60		
SR-06-0023	6	Laycock Creek	4ft.x 72in.	Single Solar		Belt screen
SR-06-0029	6	Service Creek	2ft.x 24in.	Solar RH 60		
SR-06-0033	6	Patterson	4ft.x 18in.	Single LH 60		
SR-06-0034	6	John Day River	7ft.x 36in.	Solar RH 60		
SR-06-0044	6	Pine Creek	6ft.x 24in.	Dual LH 60		
SR-06-0045	6	Pine Creek	7ft.x 30in.	Triple RH 70		
SR-06-0046	6	Pine Creek	5ft.x 36in.	Triple 60		
SR-06-0047	6	Pine Creek	7ft.x 30in.	Triple LH 60		
SR-06-0050	6	Service Creek	2ft.x 24in.	Solar LH 60		
S-10-0008	10	Sitz	5ft.x 30in.	Dual RH		
S-10-0009	10	Clark	8ft.x 42in.	Solar RH 60		
S-12-0005	12	Brown	5ft.x 10ft.			Belt Screen
S-13-0002	13	Silver Lake	8ft.x 24in.	Single 60		

TABLE 4. SCREENS IN OPERATION FY 2001



*364 screens operated and maintained. The most screens in operation at any one time was 202. This was due to weather conditions, water quantity, and agricultural crop harvesting.

Table 5. Diversion Trap

Diversion Trap located at screen 6-068, RKm(391), operated Feb. 6 to May 25, 2001

<u>Species</u>	<u>Number</u>
Steelhead adult (O. mykiss)	2
Steelhead juvenile (O. mykiss)	126
Chinook (O. tshawytscha)	3
Redband trout (O. mykiss)	5
Sculpin (Cottus sp.)	29
Sucker sp. (Catostomus macrocheilus or C. columbeanus)	122
Northern pike minnow (Ptychocheilus oregonensis)	13
Chiselmouth (Acrocheilus alutaceus)	12
Redside shiner (Richardsonius balteatus)	48
Dace (Rhinichthys sp.)	71
Brook lamprey sp. (Lampetra sp.)	<u>410</u>
Total	842

**Table 6. Forty three year steelhead spawning ground summary
John Day Fish District.**

Year	Number of Streams Surveyed	Miles Surveyed	Live Steelhead	Redds	Redds Per Mile
1959	6	14.5	30	108	7.4
1960	10	22.0	60	194	8.8
1961	8	24.5	56	166	6.8
1962	10	26.5	56	184	6.9
1963	11	30.5	47	216	7.1
1964	13	43.5	51	266	6.1
1965	19	45.0	88	344	7.6
1966	23	69.0	141	1103	16.0
1967	25	78.0	61	905	11.6
1968	23	74.5	19	358	4.8
1969	27	91.5	76	806	8.8
1970	21	65.0	58	530	8.2
1971	8	22.5	18	181	8.0
1972	16	53.5	41	409	7.6
1973	25	76.4	22	402	5.3
1974	14	38.0	4	167	4.4
1975	14	34.0	21	302	8.9
1976	21	59.8	8	308	5.2
1977	30	75.5	69	535	7.1
1978	35	102.7	21	438	4.3
1979	29	78.7	4	81	1.0
1980	34	90.1	11	305	3.4
1981	33	86.1	12	319	3.7
1982	32	71.8	34	301	4.2
1983	31	89.3	39	438	4.9
1984	29	76.7	33	299	3.9
1985	39	120.3	88	1016	8.4
1986	43	120.6	129	1323	11.0
1987	61	154.3	82	1757	11.4
1988	46	128.0	111	1551	12.1
1989	35	106.5	42	340	3.2
1990	39	114.3	37	451	3.9
1991	29	91.9	8	225	2.4
1992	35	107.3	70	608	5.7
1993	24	68.0	14	166	2.4
1994	38	114.6	6	352	3.1
1995	34	104.1	8	135	1.3
1996	35	100.8	9	225	2.2
1997	33	96.5	15	165	1.7
1998	27	70.6	4	134	1.9
1999	28	79.6	20	169	2.1
2000	30	89.7	8	366	4.1
2001	29	85.7	75	433	5.1
TOTALS	1152.0	3292.4	1806.0	19081.0	254.1
AVERAGE	26.8	76.6	42.0	443.7	5.9

Table 7. Summary of Chinook salmon spawning density, John Day District, 1959-2001.

Redds/mile								
Year	Bull Run	Clear Cr.	Granite Cr.	Granite System	Upper JDR	MF John Day	NF John Day	Total
1959	*	4.3	6.0	5.3	0.3	0.0	*	2.6
1960	*	16.3	10.0	12.5	0.7	3.2	*	7.5
1961	*	3.3	5.3	4.5	3.0	1.1	*	3.2
1962	2.0	49.7	44.2	44.3	12.2	2.8	*	22.2
1963	7.0	29.2	26.4	28.4	0.8	0.4	*	12.7
1964	10	49.7	34.8	38.3	1.3	3.6	7.8	17.8
1965	7.5	16.7	24.4	18.5	5.8	3.7	8.1	11
1966	0.3	43.5	31.0	28.4	9.3	6.5	10.3	16.8
1967	6.0	38.5	19.4	23.1	7.4	1.7	5.5	13
1968	6.4	60.5	50.2	44.3	0.7	0.4	8.8	14.4
1969	15.6	13.7	16.8	15.9	9.3	4.8	20.5	13.3
1970	26.4	18.7	33.6	26.9	8.3	7.6	16.8	14.1
1971	11.6	18.8	31.2	22.6	7.0	4.1	11.8	11.5
1972	24.4	39.5	43.5	38.2	3.9**	5.1	10.5	14.2
1973	7.2	27	36	27	8.9	4.3	19.4	15.7
1974	7.6	8.0	25.5	15.9	2.5	8.1	7.2	8.2
1975	18.8	11.5	24.7	19.1	7.1	8.9	11.7	11.7
1976	9.2	7	20.2	13.5	4.6	6.6	6.2	7.5
1977	11.6	12.8	23.1	17.3	4.9	5.8	16.4	11.1
1978	12.4	6.3	19.8	13.8	4.5	10.7	5.9	8.3
1979	6.4	7.0	15.6	10.8	5.2	11.8	11.1	9.7
1980	1.2	7.0	8.5	6.5	1.2	5.8	4.3	4.3
1981	2.8	11.3	10.6	9.2	3.9	2.6	7.7	6.1
1982	5.2	10.8	12.0	10.2	3.8	6.2	5.5	6.4
1983	0.8	1.0	7.3	3.8	10.2	5.1	4.2	5.8
1984	3.2	2.0	5.8	4	5.6	6.7	3.5	4.4
1985	6.4	8.2	15.1	11	8.9	4.0	6.1	7.5
1986	2.4	11.5	20.2	13.6	12.2	6.3	14.3	11.9
1987	5.6	14	12.9	11.8	19	28.3	20.8	20.2
1988	1.2	11.0	12.5	9.7	6.3	20.1	13.6	12.4
1989	6.0	16.7	12.2	12.4	12.7	9.4	10.9	11.3
1990	2.4	2.7	11.1	6.5	9.5	3.9	14.3	9.2
1991	1.6	5.2	5.5	4.6	4.7	2.9	6.4	4.8
1992	0.0	11.7	16.5	11.5	10.9	9.0	18.8	13.2
1993	17.6	25.6	19.8	21.3	10.4	12.9	21.1	16.9
1994	0.0	4.0	14.5	8	13.0	7.8	11.2	10.2
1995	0.0	2.8	2.2	1.9	2.2	1.3	1.5	1.7
1996	3.6	9.5	14.7	10.7	17.5	11.3	16.2	14.2
1997	7.2	7.2	10	8.5	9.6	13.6	10.9	10.7
1998	0.4	2.8	8.4	4.8	8.3	6.6	5.6	6.4
1999	3.2	3.8	11.6	7.3	4.5	8.8	6.7	6.7
2000	4.8	20.0	28.0	20.5	28.1	30.6	26.9	25.7
2001	15.2	20.0	18.9	18.5	29.5	16.6	33.7	25.7

Table 8. Organizational Chart 2001

JOHN DAY WATERSHED DISTRICT FISH SCREEN AND PASSAGE PROGRAM

JANUARY 2001

